GSM/GPRS/GPS

TRACKER

USER MANUAL

preface

Thank you for purchasing GPS Tracker. This manual shows how to operate the device smoothly and correctly. Make sure to read this manual carefully before using this product. Please note that specification and information are subject to changes without prior notice in this manual. Any change will be integrated in the latest release. The manufacturer assumes no responsibility for any errors or omissions in this document.

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1 Summary

Working Based on existing GSM/GPRS network and GPS satellites, this product can locate and monitor any remote targets by SMS or GPRS.

2 Applications

- Rental vehicle / Fleet management etc
- Protect the child / the old / the disabled / pet etc
- Provide peace-of-mind for businessmen
- Personnel management
- Covert Tracking

3 Hardware Description

3.1 Front face

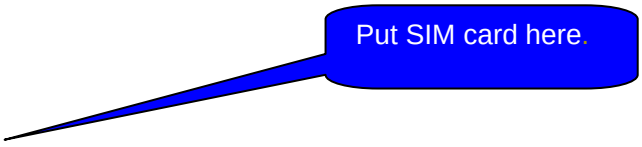
3.2 Rear face

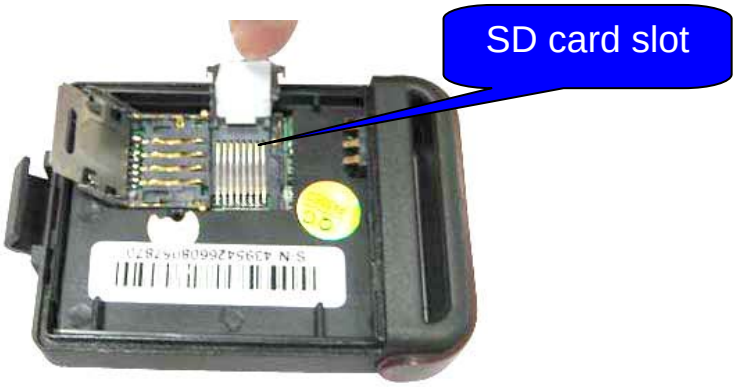
3.3 Side face

Indicator for signals.
You can update software, charge battery from here.
SOS
ON/OFF
You can press the “SOS” buttons for 3s for emergent help.
Microphone
Turn on / off the unit here.
GSM/GPRS antenna is inside

3.4 Bottom face

3.5 Interior





4 Specs.

Content	Specs.
Dim.	64mm x 46mm x 17mm(1.8”*2.5”*0.65”)
Weight	50g
Network	GSM/GPRS
Band	GSM850/900/1800/1900Mhz
GPS chip	SIRF3 chip
GSM/GPRS module	Simcom SIM900
GPS sensitivity	-159dBm
GPS accuracy	5m
Time To First Fix	Cold status 45s Warm status 35s Hot status 1s
Car charger	12—24V input 5V output
Wall charger	110－220V input 5V output
Battery	Chargeable changeable 3.7V 800mAh Li-ion battery

Standby	80hours
Storage Temp.	-40°C to +85°C
Operation Temp.	-20°C to +55°C
Humidity	5%--95% non-condensing

5 Usage

5.1 SIM card installation

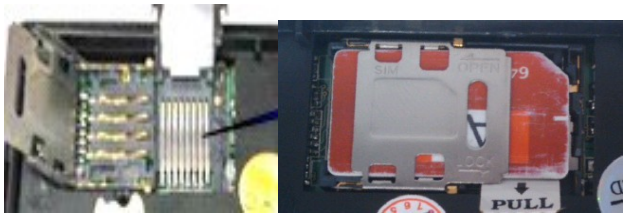
Make sure that there is **no call transfer** and **call display is on**, and **PIN code off**. The SMS message must in Text format, can't be identified for PDU format.

Steps:

5.1.1 Open the rear cover, and pick out the battery.

5.1.2 Push the foil along and turn it left.

5.1.3 Put the SIM card into the holder, and turn the foil right and fasten it in place.



5.2 Battery and Charger

Do charge the battery to capacity in 8 -12 hours for first use. Please use the battery and charger provided by the manufacturer. This unit adopts built-in Li-ion battery, and full battery will support around 80 hours use on end. After first use, the battery can be charged fully in 3-5hours.

Cautions:

a: For it’s Li-ion battery, which contains harmful chemicals and may burst, please don’t bump, puncture it violently and keep it off fire.

b: Please charge the battery in time to keep it working normally.

5.3 Startup

- Put the SIM card and the battery in place and turn on the unit outdoors
- The unit will power on automatically once the battery is inserted
- For first use, please initialize the unit and restore it to default setting.(please refer to **5.4** for instruction.)
- In 10 or 40seconds, the unit will begin to work and acquire the GSM signals as well as the GPS signals. The indicator will keep flashing every 4 seconds when the unit has received the signals, otherwise it will keep on.
- When this unit receives GPS signals normally, you can use it and do all the following settings.

5.4 Initialization

Send “begin+password” in SMS to the unit, it will reply “begin ok” and initialize all the settings. (default password: 123456)

5.5 Change the password

Send SMS password+old password+space+new password to change the password.

Remark:

5.5.1 Be sure keep the new password in mind, you have to upload the software to restore the original setting in case of losing the new password.

5.5.2 Make sure the new password is in 6 digits, or else the tracker can not recognize the password.

5.6 Authorization

There are only 5 numbers able to be authorized.

5.6.1 Send SMS admin+password+space+cell phone number to set up a authorized number. The other authorized numbers should be set by the first authorized number. If the number is successfully authorized, the unit will reply “admin ok!” in SMS.

5.6.2 Send SMS noadmin+password+space+authorized number to delete the authorized number.

5.6.3 For roaming purpose, you have to add your country code ahead of the cell phone number, for example, please send admin123456 008613322221111 to tracker to set 13322221111 as an authorized number.

5.7 Real-time polling

5.7.1 If there is no authorized number, when any number dials up the unit, it will report a Geo-info; If there is already an authorized number, then it will not respond when an unauthorized number calls it up.

5.7.2 When an authorized number dials up the unit, it will hang up and report a real-time Geo-info as below:

Lat:22.566923N long:114.051331E speed :0.00 28/03/09 03:33 F:4.2V,0,Signal:F imei:359587011016561 05 41.9

Lat:22.566923N=Latitude

long:114.05133E=Longitude

Speed:0.00=speed (Km/h)

28/03/09=date

03:33=time

F:4.2V=Back up battery volume is normal:4.2V L=Battery is low

0=not charging,1=charging

Signal:F=GPS signal is normal,signal:L=GPS signal is low

Imei:35958701101656=Imei number of the product

05=it has 5 GPS satellites

41.9=Altitude

5.8 Auto-Track

Report a Geo-info at 30s intervals to the authorized numbers for 5 times:

5.8.1 Set up: Send SMS t030s005n+password to the unit, it will report the Geo-info at 30s intervals for 5 times.(s: second, m: minute, h: hour). The setting must be in 3 digits and at maximum 255 in value.

5.8.2 Send SMS t030s***n+password to the unit, it will reply SMS heaps of times

5.8.3 Cancel: Send notn+password to delete the “ auto track ”

Remark: the interval must not be less than 5s.

5.9 Voice Surveillance

In this mode, the user can dial up the unit to monitor the voice (please refer to **5.10** for instruction).

5.10 Modes switch between “track” and “monitor”

5.10.1 The default mode is “track”.

5.10.2 Send SMS monitor+password to the unit, and it will reply “monitor ok!” and switch to “monitor”mode.

5.10.3 Send SMS tracker+password to the unit, it will reply “tracker ok!” and restore to “track” mode.

5.11 Geo-fence

Set up a geo-fence for the unit to restrict its movements within a district. The unit will send the message to the authorized numbers when it breaches the district.

5.11.1 Set up: When the unit stays immobile in a place for 3-10 minutes, the user can Send SMS stockade+password+space+longitudeE/W,latitudeN/S;

longitudeE/W,latitudeN/S to unit to set the restricted district. In case of breach, it will send SMS “stockade!+geo-info” to the authorized numbers.

Remark : The first latitude&longitude is coordinate of the top left corner of the Geo-fence, while the second latitude&longitude is the coordinate of the bottom right corner. It will alarm one time in each setting.

5.11.2 Cancel: Send SMS nostockade+password to deactivate this function.

This function will be out of effect after the unit moves outside the district.

5.12 Movement alert

5.12.1 Set up: When the unit stays immobile in a place for 3-10 minutes, the user can send SMS move+password to the unit, then the unit will reply “move ok!”. In case of such a movement, it will send SMS “Move” along with a Geo-info to the authorized numbers. It will alarm one time in each setting.

5.12.2 Cancel: Send SMS nomove+password to deactivate the movement alert.

Remark: This function will be out of effect after the unit moves outside the district.

5.13 Overspeed alert:

5.13.1 Set up: Send SMS speed+password+space+080 to the unit (suppose the speed is 80km/h), and it will reply “speed ok!”. When the target moves exceeding 80 km/h, the unit will send SMS speed+080!+Geo-info to the authorized numbers. It will alarm one time in each setting.

5.13.2 Cancel: Send SMS nospeed+password to deactivate the overspeed alert

Remark: It is recommended that the speed alarm is set at not less than 50km/h. For below that rate, it may cause the excursion of the GPS signal influenced by clounds etc.

5.14 IMEI checking:

Send SMS imei+password to the unit to check the IMEI number.

5.15 SOS button

Press the SOS for 3 seconds, it will send “ help me !+ Geo-info” to the first authorized number.

5.16 Low battery alert

It begins to alert when it is 3.7V and sends you one SMS alert.

SMS format: low battery+Geo-info.

5.17 SMS center

5.17.1 Send SMS adminsms+password+space+cell phone number to set the SMS center.

If the SMS center is set up, when an authorized number sends SMS to the tracker, the tracker will reply a SMS with Geo-info & authorized number to SMS center.

5.17.2 Send SMS noadminsms+password to cancel the SMS center.

Response SMS format: authorized number+Geo-info

5.18 GSM ID (Optional)

There is GSM ID in each SMS from the tracker. The tracker can be found according to the GSM ID in case of no GPS signal.

5.19 Motion sensor

Send shake+password+space+1-10 to the tracker to set up this function.

Shake123456 1 is the least sensitive degree and the tracker will send alert at once if you

Shake it heavily. While shake123456 10 is the most sensitive degree and the tracker will send alert if you touch it slightly.

Shake123456 0 is the sms to remove this function.

5.20 SD card function

A mini SD card can be put in the tracker's SD card slot. The GPRS data can be saved in the SD card if GPRS is off. It will send data to the GPRS server again if GPRS is on.

Send SMS sdlog123456 1 to the tracker to activate the function of storing data in SD card;

Send SMS sdlog123456 0 to the tracker to deactivate the function of storing data in SD card.

Send SMS readsd+password+space+1 to ask the tracker to send data in the SD card to the GPRS server.

Send SMS readsd+password+space+0 to ask the tracker to stop sending data in the SD card to the server.

5.21 Mobile tracking

The default is SMS text format, if the user wants to check the position base on a PDA mobile,send "smslink123456" to switch to the link format, after that, call the tracker,tracker returns http://maps.google.com/maps?f=q&hl=en&q=22.540311,114.079186&ie=UTF8&z=16&iwloc=addr&om=1speed:000.0 , click the link,PDA shows you the map directly.

Send "smstext123456" to switch back to the text format.

Send "smslinkone123456", the tracker will reply just one SMS link like following:

http://maps.google.com/maps?f=q&hl=en&q=22.540311,114.079186&ie=UTF8&z=16&i

wloc=addr&om=1speed:000.0, click the link,PDA shows you the map directly.

5.22 Tlimit function

The default Tlimit value is 0 meter, send SMS "tlimit123456 100" to change the limited distance to 100 meters, which means when the tracker under the auto reporting mode (for example, t030s***n123456), the tracker will not send any updated Geo-info if the moving distance is less than 100 meters, it will send updated Geo-info only when the moving distance is more than 100 meters.

P.S. You can change the tlimit value to 50-5999 meters by sending above command. Send "tlimit123456 0" to remove this feature, after that, the tracker will report the Geo-info according to preset interval and times.

5.23 GPRS setting

In order to use GPRS function, the user needs to set IP, Port and APN (access point name) by either cell phone, or our PC software.

5.23.1 Set an IP address and port:

Setup: Send SMS adminip+123456+space+IP address+space+port.

If setup successful, the tracker will reply SMS adminip ok

Cancel: Send SMS noadminip+123456

5.23.2 Set APN

Setup: Send the following SMS to set up APN:

apn+password+space+the customer’s APN CONTENT

apnuser+123456+space+THE GPRS SIM CARD’S USER NAME

apnpasswd+123456 +space+THE GPRS SIM CARD’S PASSWORD

If setup successful, the tracker will reply SMS “APN ok”.

P.S. The old APN will be invalid when you set a new APN.

As soon as the IP & Port & APN are set up, the user can make a call or send SMS to tracker. The tracker will hand up the telephone and report the coordinates to IP address.

The message sent by tracker to IP address is as following:

090723164830,+13616959853,GPRMC,214830.000,A,3017.2558,N,09749.4888,W,26.9,108.8,230709,,,A*61,F, Help me,imei: 359587013388627,

05,264.5,F:3.79V,0,122,13990,310,01,0AB0,345A

090723164830=Serial no.(year, month, date, hour, minute, second)

+13616959853=Authorized no.

GPRMC,214830.000,A,3017.2558,N,09749.4888,W,26.9,108.8,230709,,,A*61=standard GPRMC sentences.

F=GPS signal is full, if it indicate " L ", means GPS signal is low

Help me=It is the SOS message, and this section is blank for tracking message

IMEI=Identify no.of the tracker

05=Means you get 5 GPS fix (from 3 to 10)

264.5=Altitude

F: 3.79V =Battery voltage

0=Means the tracker is NOT charged. 1 means the tracker is charged

122=The length of the GPRS string

13990=Checksum

310=MCC Mobile Country Code

01=MNC Mobile Network Code

0AB0=LAC Location area code

345A=Cell ID

Notes:

1 Our gprs supports TCP or UDP protocol, so please confirm whether your GPRS webserver supports TCP or UDP protocol before having the order.

2 Please use the SIM card which is with GPRS function.

Pls use the following SMS to set up GMT time in the SMS for the tracker

time zone+password+space+ the customer’s GMT TIME

Pls use the following SMS to set up YOUR website in the SMS for the tracker

home+password+space+ the customer’s WEBSITE

6 Cautions

Please comply with the instructions to extend the unit life:

1. Keep the unit dry. Any liquid, i.e. rain, moisture, may destroy or damage the inside circuitry.

2. Don’t use & store the unit in dusty places.

3. Don’t put the unit in overheated or overcooled places.

4. Handle carefully. Don’t vibrate or shake it violently.

5. Clear the unit with a piece of dry cloth. Don’t clean in chemicals, detergent.

6. Don’t paint the unit, this may cause some foreign materials left in between the parts.

7. Don’t disassemble or refit the unit.

8. Please use the battery and charger provided by manufacturer. Using other batteries and chargers will cause unwanted situation.

9. Don’t dismount the antenna randomly, or use other antennas. This may interfere the transmission, and increase the radiation as well.

7 Faults & The solutions

Faults	Solution
Startup Fail	Check the battery and see if it is fully charged or correctly installed.
Hangup Fail	In existence of an authorized number, an unauthorized number dials up the unit. Please initialize the unit and re-set up the authorized numbers.
Monitor Fail	Check if the authorized number is setup or in the coverage of signals.
Location report in digits of zeros.	Don’t use it in the place beyond reach of signals. Place the unit outdoors, especially when starting it up.